

pulses, each transceiver transmits beacon pulses itself, thus contributing to the generation of the other beacon pulse series signal, on which other transceivers can lock."

The Examiner admitted that that the Haartsen patent does not specifically disclose that the reason to retransmit packets is due to rain fade, but that this is disclosed by the Fang patent. The Examiner's position is that the Fang patent "discloses the technique of transmitting the same message more than once (ie. Time Diversity) in order to avoid fades due to anomalies such as precipitation in the comms path (col 1, lines 16-18 and 8-12). As exemplified by Fang, the technique of transmitting the same message or packet of data more than once to minimize the effect of fading such as precipitation is a popular and very basic technique in data transmission".

The Fang patent states that "The general concept of diversity is well-known in the field of communications and may be simply stated as the technique of transmitting and/or receiving the same message more than once in order to avoid simultaneous fades of the identical message-carrying signals due to propagation anomalies in the communications path. ... For example, there is Time Diversity where the same message is transmitted by a single transmitter more than once; there is Frequency Diversity where the same message is transmitted in different frequency bands".

In addition, the Examiner admitted that that the Haartsen and Fang patents do not disclose that the time delay between packet transmissions is related to a rain fade event, but that this limitation is disclosed in the Campana, Jr. patent. The Examiner's position is that the Campana, Jr. patent discloses a system and method for transmission that is subject to fading by sending a first and second streams with the second stream being delayed by a time delay equal to or greater than the fading interval".

The Campana, Jr. patent states that "The problems are caused by the propensity of atmospheric serial information transmission to semi-synchronous receivers to be subject to unpredictable interruptions caused by atmospheric fades which degrade the atmospheric transmission below the noise threshold of the receiver".

Notwithstanding the Examiner's position, it is respectfully submitted that the Haartsen, Fang and Campana, Jr. patents, taken singly or together, do not disclose or suggest the present invention. Claim 1 recites"

1. A data broadcasting system for distributing data to one or more remote locations in a rain fade environment, comprising:
 - a transmitting processor for forming data packets comprising data to be transmitted;
 - a data distribution system for transmitting the data packets at least two times to one or more receivers located at remote locations, which times are separated by a time delay having a duration that is related to a rain fade event, which time delay is sufficient to allow data reconstruction in the presence of the rain fade event; and
 - the one or more receivers receiving the data packets and processing the data packets transmitted the at least two times to reconstruct the originally transmitted data.

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It is respectfully submitted that the Haartsen, Fang and Campana, Jr. patents, taken singly or together, do not disclose or suggest "a data distribution system for transmitting the data packets at least two times to one or more receivers located at remote locations, which times are separated by a time delay having a duration that is related to a rain fade event, which time delay is sufficient to allow data reconstruction in the presence of the rain fade event". The Examiner has contended that the Fang patent discloses that the reason to retransmit packets is due to rain fade and that the Campana, Jr. patent discloses that the time delay between packet transmissions is related to a rain fade event. It is respectfully submitted that these conclusions are not correct.

There is absolutely not disclosure or suggestion in either the Fang or Campana, Jr. patents, taken singly or together, that state that data packets are transmitted at least two times, which times are separated by a time delay having a duration that is related to a rain fade event, which time delay is sufficient to allow data reconstruction in the presence of the rain fade event. In particular, the word "rain" and phrases "rain fade" and "rain fade event" are not used in either patent.

Therefore, it is respectfully submitted that the Haartsen, Fang and Campana, Jr. patents, taken singly or together, do not disclose or suggest the invention recited in Claim 1. Accordingly, withdrawal of the Examiner's rejection and allowance of Claim 1 is respectfully requested.

Independent Claim 12 recites a rain fade mitigation method that includes substantially identical language that is present in Claim 1. Claim 12 recites the step of "transmitting the data packets at least two times to one or more remote locations, which times are separated by a time delay having a duration that is related to a rain fade event, which time delay is sufficient to allow data reconstruction in the presence of the rain fade event", which is not disclosed or suggested by any of the cited patents, taken singly or together.

Therefore, it is respectfully submitted that the Haartsen, Fang and Campana, Jr. patents, taken singly or together, do not disclose or suggest the invention recited in Claim 12. Accordingly, withdrawal of the Examiner's rejection and allowance of Claim 12 is respectfully requested.

Dependent Claims 2-7 and 13-15 are considered patentable based upon their dependence from allowable Claims 1 and 12. Accordingly, withdrawal of the Examiner's rejection and allowance of Claims 2-7 and 13-15 is respectfully requested.

Claims 8-11 and 16-17 were allowed. The finding of allowable subject matter in this application is appreciated

In view of the above, it is respectfully submitted that all pending claims are not obvious in view of the cited references, taken singly or together, and are therefore patentable. Therefore,

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it is respectfully submitted that the present application is in condition for allowance.
Reconsideration of this application and allowance thereof are earnestly solicited.

Respectfully Submitted,

A handwritten signature in black ink, appearing to read "Kenneth W. Float", with a stylized flourish at the end.

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